THE CERES S´COOL PROJECT

SINCE MARCH 23, 30 STUDENTS FROM FIRST GRADE TO TWELFTH GRADE, PARTICIPATE IN THE CERES S'COOL PROJECT PERFORMNING CLOUD OBSERVATIONS FROM THE GROUND COORDINATED WITH OVERPASSES FROM THE NOAA 15 EVERY MORNING.

Carolyn Green viewing the posters from the Bayard school during the EWOC Congress In Australia (Photo N.C. Archive Clouds)

The Bayard school was invited to participate in a project organized by the NASA known as the CERES S'COOL Project, with participation from 226 schools from around the world.

CERES is an abbreviation for Clouds and Earth's Radiant Energy System. This is a high-priority, satellite-based program which is a component of NASA's Earth Science Enterprise, a continuation of Mission to Planet Earth. The CERES program allows scientists to study the various ways that clouds affect the earth's climate. This is very important to us all since we do not know the precise role that clouds play in the global temperature change. (See Nubes 7)

S'COOL is an abbreviation for Students'Cloud Observations ON-LINE. NASA has obtained participation from schools that can provide ground-based observations of cloud formations (ground truth). That is, students on ground measure the same object as the satellite is measuring from space. NASA compares the observations and uses these comparisons to evaluate the accuracy of the satellite's instruments.

Prior to participation in the program, the students from the Bayard school were trained in the observation and recording of various metereological variables as well as in the observation and identification of the various types of cloud formations and classifications.

This activity introduced us to the subject of Remote Observation. Remote Observation, remote sensing, or teledetection are three different ways of naming the same concept. It can also be referred to as remote sensors. Remote sensing is the method by which information about the Earth is acquired at a distance (remotely).

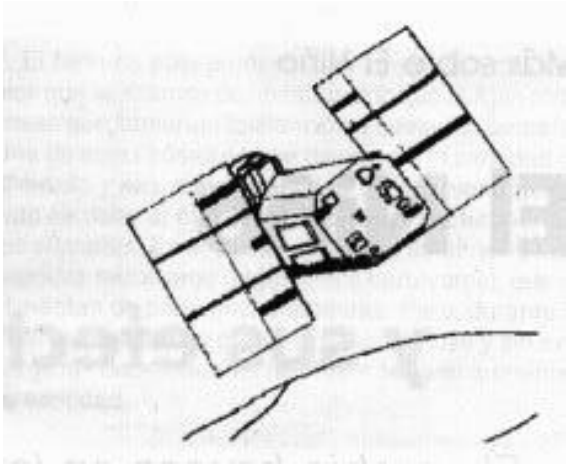
The S'COOL project also required us to understand the basic principles of remote sensing and to know and understand the goals of the CERES project. Based on an energy spectrum, we classified sensors as passive and active (satellites and radar). We classified satellites based on their use, whether atmospheric or metereological and based on their heliocentric orbits and geostationary systems.

We also studied the fundamental physics behind electromagnetic radiation and we addressed the concepts of frequency, wavelength, and wave velocity. We also have to select the most appropriate satellite for a given measurement based on its spatial, temporal, and spectral resolution.

NASA provides us with the schedules for the satellites of interest (three choices are the TRMM, NOAA 14 and NOAA 15 because these have CERES instruments). At our school, we selected the NOAA 15 satellite traverses daily in our region of the planet during the first hours of class in the morning. On a daily basis, we observe and record the types of clouds in our area and we include atmospheric pressure, temperature, humidity, and the state of the ground (from the Pascal station). We then fill out an electronic form and we send it to the S'COOL project headquarters in Hampton, Virginia, USA.

Participation in this project allows us to have our records of information for comparison with other schools and other latitudes.

Granting of certificate of participation from the CERES S'COOL project (Archived photo Nubes CP).



Drawing of satellite by Federico and Sebastian.

On August 17, during a ceremony at the school, we received the certificates and stickers that NASA sent to the participants in this project. This project is expected to last at least 17 years. We realize that the data has to be recorded and analyzed over a long period of time in order to fully understand the results. There will probably be many future students that will participate in this program as well.

The web site to get more information on this program is http://asd-www.larc.nasa.gov/SCOOL/